UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,188	10/12/2004	Maurizio Ghirardi	007516.00001	1843

22907 7590 07/12/2010

BANNER & WITCOFF, LTD.
1100 13th STREET, N.W.
SUITE 1200
WASHINGTON, DC 20005-4051

EXAMINER	
OH, ANDREW CHUNG SUK	
ART UNIT	PAPER NUMBER
2466	

MAIL DATE	DELIVERY MODE
07/12/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,188	GHIRARDI, MAURIZIO	
	Examiner	Art Unit	
	ANDREW OH	2466	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5 and 7-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5 and 7-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. DETAILED ACTION

2. Response to Arguments

3. **35 USC § 103**

4. Applicant's arguments with respect to claim 1, 2, 5, 7-31 have been considered but are moot in view of the new ground(s) of rejection.

5. **35 USC § 112, first paragraph**

6. Applicant's arguments, see p9, filed 2010/04/06, with respect to section 112, first paragraph have been fully considered and are persuasive. The section 112 rejection of claim 31 has been withdrawn.

7. **35 USC § 101 / 112**

8. Applicant's arguments filed 2010/04/06 have been fully considered but they are not persuasive. The amendments to claim 29 are deemed insufficient to overcome the 101/112 rejection.

9. Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

11. Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claim 29, 30 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

13. Claim 29 comprises various objects wherein the specification states that objects are agents (p1, ln.1-10), that agents are processes (p4, ln.4-8), and that processes include software (p4, ln.9-19).

14. Claim 30 is directed toward a computer-readable medium and the specification fails to define what a computer-readable medium is. Thus, using the broadest reasonable interpretation, claim 30 includes signals per se, which are non-statutory.

15. Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

17. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claim 1, 5, 7, 8, 29, 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), and further in view of Chikenji (US-6639893), Sarnikowski (US-6847609).

19. As to claim 1, 29, 30: Fujino teaches a method managing a management activity of at least one managed object by at least one manager object through a communication network, the method comprising the following steps: providing ... intermediate objects configured to manage said at least one managed object according to a data set **(fig.2, 10, 20, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67: sub-manager manages agents and collects information from them in order to post them to the integration manager)**, said management activity being transformed into a set of results

(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67: integration issues request to sub-manager which results in returned data collected from agents), receiving, at said ... intermediate objects, said data set from said at least one manager object **(col.2, ln.60 - col.3, ln.19 and col.6, ln.55-67: SNMP / reference request from integration manager)**, concurrently managing said at least one managed object through said ... intermediate objects, to generate said set of results **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67: post management objects from sub-manager to integration manager, management objects having been obtained from agents)**, and transferring said set of results from said ... intermediate objects to said at least one manager object **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67: post management objects from sub-manager to integration manager, management objects having been obtained from agents)**.

20. Fujino may not explicitly teach and managing at least one managed object through several intermediate objects of said plurality. However, Chikenji teaches and managing at least one managed object through several intermediate objects of said plurality **(fig.33, fig.34, col.46, ln.1-67: multiple SNMP managers)**.

21. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Chikenji into Fujino since Fujino suggests SNMP sub-managers managing agents **(fig.1, fig.2)** in general and Chikenji suggests multiple SNMP managers, the motivation being to provide back-up units in case of a fault **(fig.33, fig.34, col.46, ln.1-67: multiple SNMP managers)**.

22. Fujino, Chikenji may not explicitly teach concurrently managing said at least one managed object. However, Sarnikowski teaches concurrently managing said at least one managed object **(2:41-52; 10:49 – 11:64: network entity is configurable to be jointly managed by at least two network management stations)**.

23. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Sarnikowski into Chikenji since Chikenji suggests multiple SNMP managers in general and Sarnikowski suggests multiple managers jointly managing network entities configured to use SNMP **(12:1)**, the motivation being to advantageously provide greater flexibility to service providers and enterprises in implementing enterprise networks **(2:50-52, 11:54-64)**.

24. As to claim 5: Fujino teaches the method according to claim 1 which comprises the following steps: managing at least one further managed object **(fig.1, 20)** directly through said at least one manager object **(fig.1, 50)** and transferring said data set and said results set between said at least one manager object and said at least one further managed object **(col.5, ln.62 – col.6, ln.4; col.6, ln.55-58: integration manager manages agents directly connected to it through LAN3)**.

25. As to claim 7: Fujino teaches the method according to claim 1 wherein at least one of said plurality of intermediate objects is provided with respective reception modules and transmission modules **(fig.2, 10 and col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67: transmission and reception of information of AG between manager and**

agent) configured so that said at least one manager object sees said at least one of said plurality of intermediate objects as a managed object **(col.3, ln.1-5: integration manager views sub-manager as an agent)**.

26. As to claim 8: Fujino teaches the method according to claim 1 wherein at least one of said plurality intermediate objects comprises at least one respective management module **(fig.3)** configured so that said at least one managed object which is managed by said at least one of said plurality of intermediate objects, sees said at least one of said plurality of intermediate objects as said at least one manager object **(col.3, ln.1-5, col.8, ln.40-52: sub-manager behaves as manager to its agents)**.

27. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609) as applied to claim 1 above, and further in view of Rozman (US-5438614).

28. As to claim 2: Fujino teaches the method according to claim 1 which comprises the step of establishing communication between said at least one manager object and at least one of said plurality of intermediate objects **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67: post management objects from sub-manager to integration manager, management objects having been obtained from agents)**.

29. Fujino may not explicitly teach via UDP protocol. However, Rozman teaches via UDP protocol **(col.43, ln.54-59: SNMP over UDP)**.

30. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Rozman into Fujino since Fujino suggests SNMP nodes communicating using SNMP messages **(fig.1, fig.2)** in general and Fujino suggests SNMP transmitted over UDP, the motivation being to provide for better interoperability **(col.43, ln.54-59: SNMP over UDP)**.

31. Claim 9, 10, 11, 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609) as applied to claim 1 above, and further in view of Osmond (US-6044468).

32. As to claim 9: Fujino teaches the method according to claim 1 wherein at least one of said plurality of intermediate objects is provided with one of the following queues: ... and - a working queue for collecting messages inherent to said management activity performed by said at least one of said plurality of intermediate objects on said at least one managed object **(col.6, ln.5-18, ln.55-58: MIB database contains management objects collected from agents)**.

33. Fujino may not explicitly teach **-** an input queue for collecting input messages with respect to said at least one of said plurality of intermediate objects, **-** an output queue for collecting output messages from said at least one of said plurality of intermediate objects. However, Osmond teaches **-** an input queue for collecting input messages with respect to said at least one of said plurality of intermediate objects, **-** an output queue for collecting output messages from said at least one of said plurality of

intermediate objects **(col.6, ln.20-32: SNMP manager with buffer for transmission and reception)**.

34. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Osmond into Fujino since Fujino suggests an SNMP manager with a buffer **(col.22, ln.17)** in general and Osmond suggests an SNMP manager with a buffer performing transmission and reception, the motivation being to store messages beforehand to prevent jitter and dropping of packets and to streamline transmission and reception **(col.6, ln.20-32: SNMP manager with buffer for transmission and reception)**.

35. As to claim 10: Fujino teaches the method according to claim 9 which comprises the step of providing, in said at least one of said plurality of intermediate objects, a dedicated module for analyzing the input messages received by said input queue **(col.7, ln.66—col.8, ln.5: sub-manager agent analyzes SNMP request).**

36. As to claim 11: Fujino teaches the method according to claim 10 which comprises the following steps: **-** providing, in said at least one of said plurality intermediate objects, an activity co-ordinating module for implementing at least one of the following functions: instantiating at least one concurrent process, **-** updating activity status of the requests in said working queue, and **-** creating statistic check messages to be sent to said at least one manager object through said output queue **(col.15, ln.23-37: self-agent and sub-agent process SNMP requests in parallel)**.

37. As to claim 12: Fujino teaches the method according to claim 9 which comprises the step of providing a plurality of protocol management modules configured to establish communication to said at least one managed object **(col.6, ln.59-67, col.15, ln.14-17, ln.38-48: communication with integration manager and agents using various modules such as communication control function and trap management function managing the exchange of SNMP messages)** through respective different protocols in said at least one of said plurality of intermediate objects **(col.6, ln.59-67, col.15, ln.14-17, ln.38-48: SNMP)**.

38. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468) as applied to claim 9 above, and further in view of Champlin (US-6519635).

39. As to claim 13: Fujino teaches the method according to claim 9.

40. Fujino may not explicitly teach which comprises the step of establishing communication between said at least one manager object and said at least one of said plurality of intermediate objects by subjecting at least one part of the respective messages to a compression operation. However, Champlin teaches which comprises the step of establishing communication between said at least one manager object and said at least one of said plurality of intermediate objects by subjecting at least one part

of the respective messages to a compression operation **(fig.4, col.5, ln.11-27: compress SNMP PDUs)**.

41. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Champin into Fujino since Fujino suggests SNMP managers and sub-managers **(fig.1, fig.2)** in general and Champin suggests SNMP managers and sub-managers compressing received data, the motivation being to store the data in such a way as to take up the least amount of space **(fig.4, col.5, ln.11-27: compress SNMP PDUs)**.

42. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468), Champlin (US-6519635) as applied to claim 13 above, and further in view of Le (US-6882637).

43. As to claim 14: Fujino teaches the method according to claim 13.

44. Fujino may not explicitly teach wherein said compression operation is based on the acknowledgment of a sequence which appears periodically in the at least one part of the respective messages. However, Le teaches wherein said compression operation is based on an acknowledgment of a sequence which appears periodically in the at least one part of the respective messages **(fig.7; 29:40 – 30:24; ESP 29:60-62: receiver sends periodic ACKS to the sender in response to compressed packets with sequence numbers being received; sequence numbers recur in each respective packet)**.

45. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Le into Champlin since Champlin suggests packet compression in general and Le suggests packet compression where the sequence number of a compressed packet is periodically acknowledged, the motivation being to address wrap-around and long burst problems **(29:45-47)**.

46. Claim 31 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468), Champlin (US-6519635), Le (US-6882637) as applied to claim 14 above, and further in view of Leon (US-20020083205).

47. As to claim 31: Fujino teaches the method according to claim 14.

48. Fujino may not explicitly teach wherein a compressed message is generated responsive to the acknowledgment of a sequence which appears periodically in the at least one part of the respective messages prior to compression. However, Le teaches wherein a compressed message is generated responsive to the acknowledgment **(7:14-40: de-compressor returns acknowledgment containing compressed to compressor; compressor then sends subsequent compressed packets)** of a sequence which appears periodically in the at least one part of the respective messages … to compression **(fig.7; 29:40 – 30:24; ESP 29:60-62: receiver sends periodic ACKS to the sender in response to compressed packets with sequence numbers being received; sequence numbers recur in each respective packet)**.

49. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Le into Champlin since Champlin suggests packet compression in general and Le suggests packet compression where the sequence number of a compressed packet is periodically acknowledged, the motivation being to address wrap-around and long burst problems **(29:45-47)**.

50. Fujino, Le may not explicitly teach a sequence which appears in a message prior to compression. However, Leon teaches a sequence which appears in a message prior to compression **([0002, 0003, 0038]: sequence number is compressed and decompressed, implying that it exists in the packet before compression)**.

51. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Leon into Le since Le suggests sequence numbers in general and Leon suggests compressing and decompressing a pattern of sequence numbers, the motivation being to derive the timestamp from the sequence numbers, thus, allowing the transmission of only a sequence number and saving bandwidth.

52. Claim 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468), Champlin (US-6519635), Le (US-6882637) as applied to claim 14 above, and further in view of Dorward (US-6236341).

53. As to claim 15: Fujino teaches the method according to claim 14.

54. Fujino may not explicitly teach wherein said compression operation implements a gzip type method. However, Dorward teaches wherein said compression operation implements a gzip type method **(col.3, ln.10-38, col.10, ln.59 – col.11, ln.16, col.12, ln.48 – col.13, ln.7: zlib to compress packets)**.

55. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Dorward into Champlin since Champlin suggests PDU compression **(fig.4, col.5, ln.11-27: compress SNMP PDUs)** in general and Dorward suggests PDU compression using zLib, the motivation being to save costs by utilizing free software **(col.3, ln.10-38, col.10, ln.59 – col.11, ln.16, col.12, ln.48 – col.13, ln.7)**.

56. Claim 16, 17, 18, 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Rozman (US-5438614) as applied to claim 2 above, and further in view of Birdwell (US-6032197).

57. As to claim 16: Fujino teaches the method according to claim 2.

58. Fujino may not explicitly teach which comprises the step of indicating that compression of the message transferred by UDP is done. However, Birdwell teaches which comprises the step of indicating that compression of the message transferred by UDP is done **(fig.4, 56, fig.5, 56: UDP/IP packet with a compression flag indicating that the packet is full-length or reduced length)**.

59. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Birdwell into Rozman since Rozman suggests UDP transmissions **(col.43, ln.54-59)** in general and Birdwell suggests flag indicating that a UDP packet is compressed, the motivation being to determine whether the packet should be decompressed **(col.7, ln.23-34)**.

60. As to claim 17: Fujino teaches the method according to claim 16.

61. Fujino may not explicitly teach wherein a bit field in the UDP header is used to indicate that the compression operation is done. However, Birdwell teaches wherein a bit field in the UDP header is used to indicate that the compression operation is done **(col.7, ln.23-34)**.

62. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Birdwell into Rozman since Rozman suggests UDP transmissions **(col.43, ln.54-59)** in general and Birdwell suggests flag indicating that a UDP packet is compressed, the motivation being to determine whether the packet should be decompressed **(col.7, ln.23-34)**.

63. As to claim 18: Fujino, Rozman, Birdwell teach the method according to claim 17 wherein bits comprised in the range from bit 62 to bit 69 in the UDP header are used in indicate that the compression operation is done.

64. Examiner takes Official Notice that bits 62-69 are unused in the UDP protocol and was well known in the art at the time the invention was made for the purpose of

allowing some overhead to overlay some signaling data so was to reduce bandwidth. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the unused bits within the UDP header for the purpose of notifying a node as to whether a packet is compressed or not compressed.

65. As to claim 19: Fujino, Rozman teaches the method according to claim 18.

66. Fujino, Rozman may not explicitly teach which comprises the step of setting at least one of the bits ... of the UDP message header to 1.

67. Birdwell teaches which comprises the step of setting at least one of the bits ... of the UDP message header to 1 **(fig.5, 56, fig.5, 56: reduced length packet set to 1)**.

68. Birdwell may not explicitly teach bits from 62 to 69. Examiner takes Official Notice that bits 62-69 are unused in the UDP protocol and was well known in the art at the time the invention was made for the purpose of allowing some overhead to overlay some signaling data so was to reduce bandwidth. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the unused bits within the UDP header for the purpose of notifying a node as to whether a packet is compressed or not compressed.

69. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468), Champlin (US-6519635) as applied to claim 13 above, and further in view of Noy (US-6539540).

70. As to claim 20: Fujino teaches he method according to claim 13 wherein the communication between said at least one manager object and said at least one of said plurality of intermediate objects is implemented by means of SNMP messages **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)**.

71. Fujino may not explicitly teach and comprises the following steps during the compression step: **-** reading the entire SNMP message, **-** encoding the read message in hexadecimal format, and **-** subjecting the message encoded in hexadecimal format to compression. However, Noy teaches and comprises the following steps during the compression step: **-** reading the entire SNMP message, **-** encoding the read message in hexadecimal format **(fig.2, col.1, ln.45 – col.2, ln.20: MIB information exchanged between SNMP nodes and encoded as a hexadecimal byte array)**.

72. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Noy into Fujino since Fujino suggests an SNMP manager, sub-manager, and agent exchanging SNMP messages **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)** in general and Noy suggests SNMP nodes encoding messages into hexadecimal byte arrays, the motivation being to perform a comparison and detect a byte level difference and conserve processing resources **(col.1, ln.45 – col.2, ln.20)**.

73. Noy may not explicitly teach and **-** subjecting the message encoded in hexadecimal format to compression. However, Champlin and **-** subjecting the message to compression **(fig.4, col.5, ln.11-27: compress SNMP PDUs)**.

74. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Champlin into Noy since Noy suggests encoding SNMP messages into hexadecimal byte arrays **(col.1, ln.45 – col.2, ln.20)** in general and Champin suggests SNMP managers and sub-managers compressing received SNMP data, the motivation being to store the data in such a way as to take up the least amount of space **(fig.4, col.5, ln.11-27: compress SNMP PDUs)**.

75. Claim 21, 22, 25, 26, 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468), Champlin (US-6519635) as applied to claim 13 above, and further in view of Yoshino (US-20020052946), Noy (US-6539540).

76. As to claim 21: Fujino teaches the method according to claim 13 wherein communication between said at least one manager object and said at least one of said plurality of intermediate objects is implemented by means of SNMP messages **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)**.

77. Fujino may not explicitly teach comprises the following steps during the reception step: - subjecting the received message to decompression complementary to said compression operation, to obtain a message subjected to decoding in hexadecimal format, - decoding the message from the hexadecimal format, and - reconstructing the entire SNMP message from said decoded message. However, Yoshino teaches

subjecting the received message to decompression complementary to said compression operation, to obtain a message **([0059]: defrost SNMP packet)**.

78. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Yoshino into Fujino since Fujino suggests transmitting SNMP messages in general **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)** and Yoshino suggests compressing SNMP messages and decompressing SNMP messages to obtain the original data, the motivation being to process the original data and increase bandwidth efficiency **([0059]: defrost SNMP packet)**.

79. Yoshino may not explicitly teach decoding the message from the hexadecimal format, and - reconstructing the entire SNMP message from said decoded message. However, Noy teaches decoding the message from the hexadecimal format, and - reconstructing the entire SNMP message from said decoded message **(col.1, ln.30-43, col.3, ln.35-54: extract encoded information when a difference is found)**.

80. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Noy into Fujino since Fujino suggests an SNMP manager, sub-manager, and agent exchanging SNMP messages **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)** in general and Noy suggests SNMP nodes encoding messages into hexadecimal byte arrays and extracting the messages from hexadecimal in the event of a difference resulting from the comparison, the motivation being to detect changes in the MIB information in the

database of the SNMP agents and act upon such differences **(col.1, ln.45 – col.2, ln.20)**.

81. As to claim 22: Fujinio teaches the method according to claim 21.

82. Fujino may not explicitly teach which comprises a nesting operation in a standard SNMP message for transmission of the message subjected to said compression operation. However, Osmond teaches which comprises a nesting operation in a standard SNMP message for transmission of the message **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

83. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Osmond into Fujino since Fujino suggests SNMP nodes communicating using SNMP messages **(fig.1, fig.2)** in general and Osmond suggests SNMP transmitted over UDP, the motivation being to provide for better interoperability **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

84. Osmond may not explicitly teach message subjected to said compression operation. However, Yoshino teaches teach message subjected to said compression operation **([0056]: SNMP message subject to compression operation)**.

85. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Yoshino into Fujino since Fujino suggests transmitting SNMP messages in general **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)** and Yoshino suggests compressing SNMP messages and decompressing SNMP messages to obtain the original data, the

motivation being to increase bandwidth efficiency **([0056], [0059]: compress SNMP packet for transmission)**.

86. As to claim 25: Fujino teaches the method according to 21.

87. Fujino may not explicitly teach which comprises the step of integrating the message subjected to said compression operation through UDP nesting for the transmission of the message subjected to said compression operation. However, Osmond teaches which comprises the step of integrating the message ... operation through UDP nesting for the transmission of the message **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

88. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Osmond into Fujino since Fujino suggests SNMP nodes communicating using SNMP messages **(fig.1, fig.2)** in general and Osmond suggests SNMP transmitted over UDP, the motivation being to provide for better interoperability **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

89. Osmond may not explicitly teach message subjected to said compression operation. However, Yoshino teaches teach message subjected to said compression operation **([0056]: SNMP message subject to compression operation)**.

90. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Yoshino into Fujino since Fujino suggests transmitting SNMP messages in general **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)** and Yoshino suggests compressing SNMP

messages and decompressing SNMP messages to obtain the original data, the motivation being to increase bandwidth efficiency **([0056], [0059]: compress SNMP packet for transmission)**.

91. As to claim 26: Fujino teaches the method according to claim 25.

92. Fujino may not explicitly teach which comprises the following steps during transmission: - configuring said message ... as a Protocol Data Unit (PDU) payload, and - transferring the PDU payload to a receiver port. However, Osmond teaches which comprises the following steps during transmission: - configuring said message ... as a Protocol Data Unit (PDU) payload, and - transferring the PDU payload to a receiver port **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

93. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Osmond into Fujino since Fujino suggests SNMP nodes communicating using SNMP messages **(fig.1, fig.2)** in general and Osmond suggests SNMP transmitted over UDP, the motivation being to provide for better interoperability **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

94. Osmond may not explicitly teach message subjected to said compression operation. However, Yoshino teaches message subjected to said compression operation **([0056]: SNMP message subject to compression operation)**.

95. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Yoshino into Fujino since Fujino suggests transmitting SNMP messages in general **(abstract, col.2, ln.60 - col.3, ln.24**

and col.6, ln.55-67 and fig.1, fig.2) and Yoshino suggests compressing SNMP messages and decompressing SNMP messages to obtain the original data, the motivation being to increase bandwidth efficiency **([0056], [0059]: compress SNMP packet for transmission)**.

96. As to claim 27: Fujino teaches the method according to claim 26.

97. Fujino may not explicitly teach which comprises the following steps during reception: **-** receiving said message as a payload of a PDU UDP received at a reception port, and **-** extracting said payload from said PDU. However, Osmond teaches which comprises the following steps during reception: **-** receiving said message as a payload of a PDU UDP received at a reception port **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

98. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Osmond into Fujino since Fujino suggests SNMP nodes communicating using SNMP messages **(fig.1, fig.2)** in general and Osmond suggests SNMP transmitted over UDP, the motivation being to provide for better interoperability **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

99. Osmond may not explicitly teach and **-** extracting said payload from said PDU.

100. Examiner takes Official Notice that extracting said payload from said PDU was well known in the art at the time the invention was made for the purpose of obtaining data encapsulated in the PDU. It would have been obvious to one of ordinary skill in the art at the time the invention was made to de-capsulate the SNMP message having been

encapsulated into the UDP PDU in order to obtain the SNMP message and act upon its contents.

101. Claim 23, 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468), Champlin (US-6519635), Yoshino (US-20020052946), Noy (US-6539540) as applied to claim 22 above, and further in view of Nishio (US-20010044822), Bossi (US-6421425), Rodriguez (US-20020029228).

102. As to claim 23: Fujino teaches the method according to claim 22.

103. Fujino may not explicitly teach which comprises the following steps during transmission: **-** reading the message subjected to said compression operation in bytes and transposing it into a corresponding ASCII character message, - generating a variable binding set comprising a first OID indicating the original file size and subsequent OID/value pairs which carry portions of said message subjected to said compression operation transposed into ASCII characters, **-** reconstructing SNMP message header data, **-** encoding the resulting SNMP message in hexadecimal format to generate the UDP payload, and transferring the UDP payload generated in this way. However, Bossi teaches which comprises the following steps during transmission: **-** reading the message ... and transposing it into a corresponding ASCII character message **(Bossi, col.4, ln.1-24, col.5, ln.41-60: convert to ASCII and packetize).**

104. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Bossi into Fujino since Fujino

suggests transmission of packets between network elements **(fig.2, 10, 20, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67)** in general and Bossi suggests transmission of packets between network elements where the data is encoded into ASCII for transmission after which it is decoded from ASCII, the motivation being to convert data into a format that is transportable over the internet and then to convert the data back into its original format to be processed by a system **(col.4, ln.1-24, col.5, ln.41-60, col.5, ln.61 – col.6, ln.2: convert to ASCII and packetize)**.

105. Bossi may not explicitly teach generating a ... set comprising a first ... indicating the original file size. However, Rodriguez teaches - generating a ... set comprising a first ... indicating the original file size **(Rodriguez, [0007]: indication of original, uncompressed file size).**

106. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Rodriguez into Yoshinio since Yoshino suggests compression of data **([0056], [0059]: compress / decompress SNMP packet for transmission)** in general and Rodriguez suggests an indicator containing information regarding the initial size of the file, the motivation being to keep a record with which to compare with the result of a future decompress operation **([0007])**.

107. Bossi and Rodriguez may not explicitly teach and subsequent OID/value pairs which carry portions of said message subjected to said compression operation (104). However, Nishio teaches and subsequent OID/value pairs which carry portions of said message subjected to said compression operation **(Nishio, fig.6, [0073-0075], [0101]: series of OID / value pairs).**

108. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Nishio into Fujino since Fujino suggests network elements exchanging SNMP messages **(fig.2, 10, 20, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67)** in general and Nishio suggests assembling SNMP messages with variable bindings, the motivation being to search MIB databases and acquire address information of an address **(fig.9, [0073-0079], [0084], [0101]).**

109. Bossi, Rodriguez, and Nishio may not explicitly teach **-** reconstructing SNMP message header data, **-** encoding the resulting SNMP message in hexadecimal format. However, Noy teaches **-** reconstructing SNMP message header data, **-** encoding the resulting SNMP message in hexadecimal format **(Noy, fig.2, col.1, ln.45 – col.2, ln.20, col.1, ln.30-43, col.3, ln.35-54: MIB information exchanged between SNMP nodes and encoded / decoded as a hexadecimal byte array).**

110. Bossi, Rodriguez, Nishio, and Noy may not explicitly teach to generate a UDP payload, and transferring the generated UDP payload. However, Osmond teaches to generate a UDP payload, and transferring the generated UDP payload **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP).**

111. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Osmond into Fujino since Fujino suggests SNMP nodes communicating using SNMP messages **(fig.1, fig.2)** in general and Osmond suggests SNMP transmitted over UDP, the motivation being to provide for better interoperability **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

112. As to claim 24: Fujino teaches the method according to 23

113. Fujino may not explicitly teach which comprises the following steps during reception: - receiving the message subjected to said compression operation as a UDP payload, - subjecting received UDP the payload in this way to a hexadecimal decoding operation, - acknowledging and assembling the variable binding of the message subjected to hexadecimal decoding, - subjecting the message subjected to said acknowledging and assembling operation to binary ASCII decoding, and - subjecting the decoded message in binary form to said decompression operation. However, Yoshino teaches which comprises the following steps during reception: - receiving the message subjected to said compression **([0056]: SNMP message subject to compression operation)** ... and - subjecting the ... message in binary form to said decompression operation **([0059]: defrost SNMP packet)**.

114. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Yoshino into Fujino since Fujino suggests transmitting SNMP messages in general **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)** and Yoshino suggests compressing SNMP messages and decompressing SNMP messages to obtain the original data, the motivation being to increase bandwidth efficiency **([0056], [0059]: compress / decompress SNMP packet for transmission)**.

115. Yoshino may not explicitly teach operation as a UDP payload. However, Osmond teaches operation as a UDP payload **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

116. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Osmond into Fujino since Fujino suggests SNMP nodes communicating using SNMP messages **(fig.1, fig.2)** in general and Osmond suggests SNMP transmitted over UDP, the motivation being to provide for better interoperability **(col.1, ln.15-30; fig.1, 107, 117: SNMP over UDP)**.

117. Yoshino and Osmond may not explicitly teach - subjecting the received UDP payload in this way to a hexadecimal decoding operation. However, Noy teaches - subjecting the received UDP payload in this way to a hexadecimal decoding operation (214) **(col.1, ln.30-43, col.3, ln.35-54: extract encoded information when a difference is found)**.

118. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Noy into Fujino since Fujino suggests an SNMP manager, sub-manager, and agent exchanging SNMP messages **(abstract, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67 and fig.1, fig.2)** in general and Noy suggests SNMP nodes encoding messages into hexadecimal byte arrays and extracting the messages from hexadecimal in the event of a difference resulting from the comparison, the motivation being to detect changes in the MIB information in the database of the SNMP agents and act upon such differences **(col.1, ln.45 – col.2, ln.20)**.

119. Yoshino, Osmond, and Noy may not explicitly teach - acknowledging and assembling the variable binding of the message. However, Nishio teaches -

acknowledging and assembling the variable binding of the message **([0073-0077]: construct packet with variable bindings).**

120. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Nishio into Fujino since Fujino suggests network elements exchanging SNMP messages **(fig.2, 10, 20, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67)** in general and Nishio suggests assembling SNMP messages with variable bindings, the motivation being to search MIB databases and acquire address information of an address **(fig.9, [0073-0079], [0084], [0101]).**

121. Yoshino, Rozman, Noy, and Nisho may not explicitly teach - subjecting the message subjected to said acknowledging and assembling operation to binary ASCII decoding. However, Bossi teaches - subjecting the message subjected to said acknowledging and assembling operation to binary ASCII decoding **(col.5, ln.61 – col.6, ln.2: de-packetize and convert ASCII into another format for processing)**.

122. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Bossi into Fujino since Fujino suggests transmission of packets between network elements **(fig.2, 10, 20, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67)** in general and Bossi suggests transmission of packets between network elements where the data is encoded into ASCII for transmission after which it is decoded from ASCII, the motivation being to convert data into a format that is transportable over the internet and then to convert the data back into its original format to be processed by a system **(col.4, ln.1-24, col.5, ln.41-60, col.5, ln.61 – col.6, ln.2: convert to ASCII and packetize)**.

123. Claim 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino (US-5651006), Chikenji (US-6639893), Sarnikowski (US-6847609), Osmond (US-6044468), Champlin (US-6519635), Yoshino (US-20020052946), Noy (US-6539540) as applied to claim 27 above, and further in view of Takahashi (US-20020188708).

124. As to claim 28: Fujino teaches the method according to claim 27.

125. Fujino may not explicitly teach comprising the step: of transmitting a synchronisation message of the SNMP type indicating at least one of said transmission port and said reception port between said at least one manager object and said at least one of said plurality of intermediate objects. However, Takahashi teaches comprising the step of: transmitting a synchronisation message of the SNMP type indicating at least one of said transmission port and said reception port between said at least one manager object and said at least one of said plurality of intermediate objects **(fig.3: manager and intermediate objects exchange interface information)**.

126. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Takahashi into Fujino since Fujino suggests SNMP agents and managers in communication with each other **(fig.2, 10, 20, col.2, ln.60 - col.3, ln.24 and col.6, ln.55-67)** in general and Takahashi suggests SNMP agents and managers exchanging interface information with each other, the motivation being to collect information from the agents, register agents that are candidates for management, and produce a screen of a network composition **([0006-0009])**.

127. Conclusion

128. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW OH whose telephone number is (571)270-5273. The examiner can normally be reached on M-F 8:30AM - 5AM EST.

129. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Ryman can be reached on (571)272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

130. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

131. 132.

133. /A. O./
134. Examiner, Art Unit 2466

/Daniel J. Ryman/
Supervisory Patent Examiner, Art Unit 2466